relative to separating wall 14.

[0064] According to the invention, multi-layered headbox 1.1 is embodied or formed as a headbox having a sectioned fibrous suspension density control (dilution water technology) as disclosed in German publication DE 40 19 593 A1, U.S. Patent No. 5,707,495, and U.S. Patent No. 5,885,420 of the Applicant, the disclosures of which are expressly incorporated by reference herein in their entireties. An initial fibrous stock suspension flow having a high consistency $Q_{H.1}$ travels via a crosswise distribution pipe 4 through a number of sectional feeding pipes 17_1 - 17n branching off therefrom to turbulence generator 5. Modified from Figure 2, a volume flow control may be provided in each of the sectional feeding pipes 17_1 - 17n. In order to embody a sectioned stock density control the second fibrous stock suspension flow, having a lower consistency Q_L, e.g., backwater-1, is guided via a crosswise distribution pipe 4.1 and sectional feeding pipes 18_1 - 18n into the sectional feeding pipes 17_1 - 17n. Each sectional feeding pipe 18_1 - 18n has a control valve 19_1 - 19n in order to feed a controlled sectional fibrous stock suspension flow Q_L to each of the corresponding merging points 20_1 - 20n in which it is merged with the sectional fibrous stock suspension flow Q_{H1}. A third fibrous stock suspension flow having a medium or high consistency Q_{H2} arrives at the turbulence generator 5.1 via a crosswise distribution pipe 4.2 and via a number of sectional feeding pipes 21_1 - 21n branching off therefrom. Thus, in this embodiment of the multi-layered headbox 1.1, the possibility is created of allowing the sectional control of the throughput, the stock density, and thus the basis weight and the orientation of the fibers, in the presence of an optimal separation lamella 16.

[0065] The headbox 1 shown in Figure 1 may naturally also be embodied as a headbox having sectioned stock density control (dilution water technology) according to the above-mentioned embodiments.

[0066] Moreover, separating lamella 16 of multi-layered headbox 1.1 is constructed of high-performance polymer 11, having essentially the above-mentioned characteristics.

[0067] One advantage of using a high-performance polymer as the lamella material lies in the avoidance of a lamella break, even in the event of an accidental failure of the headbox pump, resulting in very high pressures between the layers in the nozzle, due to the good mechanical characteristics of the high-performance polymers.

[0068] Figure 3a shows a schematic longitudinal sectional view of an end region 22 (i.e., free end) of lamella 10.1 according to the invention.

[0069] According to the invention, lamella 10.1 is arranged to extend into a region of nozzle 7, and on its free (unmounted) end may be provided with a structure less end region 22, which provides a substantially flat (planar) surface. At the very end of end region 22, lamella 10.1 can be formed with a dull lamella end 23 having a height H of less than about 0.4 mm, preferably less than about 0.3 mm. Moreover, lamella 10.1 can be formed with a constant height h (shown in solid lines) or formed with a decreasing height h' in suspension flow direction S (shown in dot dash lines).

[0070] According to an alternative embodiment of the invention, lamella 10.1 can be arranged to extend into the region of nozzle 7, and on its free end may be provided with a structured end 22, which provides a profiled or structured surface. In this embodiment, lamella 10.1 can include a dull lamella end 23 having a height H or H' of more than about 0.5 mm in its structured free end region 22. In another embodiment, structured free end region 22 may be embodied or formed with a grooved structure 24 that is essentially rectangular and/or wedge-shaped and/or parabolic and/or essentially round with constant and/or varying depths T.

[0071] Furthermore, at least lamella end 23 may be constructed of at least one high-performance polymer 11 (dot-dashed separation line). In this regard, lamella end

23 can extend up to about 25%, and may extend up to about 50%, of a total length of lamella 10.1.

[0072] Figure 3b schematically shows three separate top views according to view arrow IIIB in Figure 3a of structured free end regions 22 of lamellae 10.1 according to the present invention.

[0073] In this regard, it is apparent that free structured end regions 22 of lamellae 10.1 according to the invention may be provided with a number of grooves 24 being essentially rectangular (A) and/or wedge-shaped (B) and/or parabolic (C) and/or essentially round with a constant and/or varying depth.

[0074] The applicant is aware of other combinations with regard to the embodiment of the free structured end region from the German Publication DE 43 29 810 A1 and U.S. Patent No. 5,639,352, the disclosures of which are expressly incorporated by reference herein in their entireties.

[0075] In conclusion it should be stated that, according to the invention, a headbox of the type mentioned at the outset is created whose lamellae have a better expense/effectiveness ratio for all kinds of possible uses and also better withstand the different operating conditions.

[0076] It is noted that the foregoing examples have been provided merely for the purpose of explanation and are in no way to be construed as limiting of the present invention. While the present invention has been described with reference to an exemplary embodiment, it is understood that the words which have been used herein are words of description and illustration, rather than words of limitation. Changes may be made, within the purview of the appended claims, as presently stated and as amended, without departing from the scope and spirit of the present invention in its aspects. Although the present invention has been described herein with reference to particular means, materials and embodiments, the present invention is not intended